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JANUARY 22ND, 1849.

REV. HUMPHREY LLOYD, D. D., PRESIDENT,
in the Chair.

IT WAS RESOLVED,—On the recommendation of Council, that Mr. Eugene Curry be employed, at an expense not exceeding fifty pounds, to make a translation of the Irish Brehon law tract, which professes to give the laws of Cormac Mac Art, as compiled by Cennfaelad.

Mr. Donovan read the second part of his paper “On the deflections of the magnetic needle, &c.”

In support of the eighteen laws read at the last meeting, the author adduced a series of experiments, which led to inferences very different from those on which reliance has been placed by the few who have investigated this subject. Of the various arguments and experiments brought forward, it would not be possible to give an abstract with any probability of rendering the subject intelligible.

Dr. Petrie gave an account of the stones presented by Mr. Bergin to the Academy.

Dr. Petrie observed, that he had remarked on his first visit to Connemara, about thirty years ago, that stones of this kind were very frequently preserved upon the altars, in the most ancient churches in that district and its adjacent islands. These stones were held in the highest veneration by the peasantry, as having belonged to the founders of the churches; and were used for a variety of superstitious purposes, as the curing of diseases, taking oaths upon them, &c. &c. Similar stones were preserved at Iona, and many other of the Hebrides, and had similar superstitions connected with them. He quoted

several authorities on these facts, and some curious allusions to them in ancient Irish manuscripts.*

Dr. A. S. Hart read a paper on the form of geodesic lines through the umbilic of an ellipsoid.

If ω be the angle at the umbilic of an ellipsoid, between the principal section of the surface and any other geodesic line, and if θ be the angle between the plane of the principal section through the umbilics and the osculating plane of this geodesic line, at any point A , and if α be the semi-angle of the right cone circumscribing the ellipsoid at the point A , a , b , and c being the semi-axes of the ellipsoid, the angle θ may be determined by the following equation :

$$\frac{\tan \frac{1}{2} \theta}{\tan \frac{1}{2} \omega} = e^{\int_{\frac{\pi}{2}}^{\alpha} \frac{da}{\sqrt{(a^2 - b^2)\sqrt{(b^2 - c^2)}} \sqrt{(a^2 \tan^2 \alpha + b^2)\sqrt{(c^2 \tan^2 \alpha + b^2)}}}}$$

Hence it follows that, as this line passes and repasses for ever through the two opposite umbilics, the tangents of the halves of the angles which it makes at these points with the plane of the umbilics will be a series of continued proportionals, the coefficient of the common ratio being determined by making

$\alpha = -\frac{\pi}{2}$ in the above equation.

If $c = 0$, the ellipsoid becomes a plane ellipse, and the geodesic line becomes the focal radius vector; and, the curvature being infinite at the circumference, it passes through the other focus, and so on for ever, forming, as before, a series of angles, such that the tangents of their halves are a series of proportionals.

* Dr. Petrie's communication will appear in full in a subsequent number of the Proceedings.